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ABSTRACT

The purposes of work measurements are to provide an economic indicator for developing counter cyclical fiscal and monetary policy, and to facilitate the development and implementation of more full employment measures. This report presents five part recommendations or guidelines that would improve the use of labor statistics as a vital tool for economic prediction. (Author/DEP)

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A CRITICAL LOOK AT

THE MEASURING OF WORK

Willard Wirtz
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U.S. DEPARTMENT OF HEALTH
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

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The National Manpower Institute
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INTRODUCTION

The larger an organization becomes, the more it depends on those who keep its accounts and make its reports. In a 200-million member society, the operative reality is pretty much whatever appears in the mirrors of the "economic indicators" -- seasonally adjusted, decimal-point monthly unemployment and cost-of-living figures, trillion dollar reports of a gross national product, and the like.

Relying on statistics to measure how we are doing as a nation, we realize less clearly that what we do is significantly affected by what we measure.

One of these report cards is released promptly at 10:00 a.m. on the first Friday of each month by the Bureau of Labor Statistics (BLS) in the Department of Labor in Washington. In 20 or 30 pages, replete with tables and charts, this document tells the complex story of what is happening in the working lives of 94 million people. These include heads of families and high school students, men and women, "whites" and "non-whites" -- in hundreds of different occupations, industries, and parts of the country. Some are in full-time, others in part-time jobs -- or are looking for them. Some earn high wages or salaries, others low. The tables show unemployment rates for some groups at below 4 percent, for others at above 40 percent. This is a report of a great many people doing well but of a good many others doing badly.

Within minutes after the release of this detailed statement, a terse one-sentence story is on the wires and newscasts: "the national unemployment rate," the familiar 5.6% or 8.0% or 9.2% or whatever it may be, has gone up or down by one or more decimal points from the month before. The rest of that 20-page report, the breakdown of the overall statistics, and what appears in a much larger supplementary report that comes out a little later -- gets slight public notice.

This BLS reporting (based on surveys by the Bureau of the Census, and on information collected by cooperating state agencies) is recognized nationally and throughout the world as a model of accuracy and efficiency. Developed through 35 years of experience since the first comprehensive measurements of employment and unemployment were taken by the Works Progress Administration (WPA) in 1940, the operation is totally professionalized. Any political officer of the Government would try to influence it at personal peril. During a decade of cumulatively corrosive disbelief of so much of what came out of the national capital there was no responsible questioning of the total integrity of this or any other economic indicator.

Perhaps there is too little basis, then, for suggesting a "critical look" at these work measurements -- especially right now, when the national unemployment rate has moved up to twice its "normal" level and stands at the highest point since the first year the WPA took these measurements. The times commend action above questioning the accounting.

The sternest view, however, of the gravity of current prospects, and the highest regard for the effect of these measuring processes, makes constructive criticism of them not only appropriate but increasingly imperative. What follows here reflects a full measure of respect, stemming from personal participation in the development and the use of these measurements, for what these processes have been and are today. That experience leads equally to the conviction that significant improvements can be made in them, and should be.

The changes that will be considered here relate in one way or another to the developing pattern, or at least emphasis, over the years in national policy with respect to the achievement and maintenance of a satisfactory employment condition. The Employment Act of 1946 emphasized the countering of malfunctions in the employment situation through fiscal and monetary action designed to increase or reduce the number of jobs by stimulating, or alternatively "cooling," the economy. It is significant that this approach was conceived of as requiring, so far as work measurements were concerned, only that one overall national unemployment rate, making no differentiations between the different groups of people involved.

The importance of the general economic condition to employment is plainly no less today than it was in 1946. Doing everything that can be done on this critical front is obviously of first priority, and the need for this measure of overall unemployment as large today as ever. No present changes will be suggested here in the keeping of this particular index.

The rest of the record of legislative action during the past 35 years, however, and particularly since 1960, is one of constant movement toward the identification and meeting of <u>particular</u> problems in the employment situation. This has demanded, so far as the work measuring function is concerned, a significant refinement and extension of the original overall reporting. Between 1961 and 1965, federal legislation was enacted to relieve unemployment in particularly depressed areas, to set up a national manpower training and development program, to provide special work opportunities for poverty's most serious victims, and to supply equal employment opportunity without regard to sex or race or ethnic background. In 1973, the administration of a large part of the federal employment and manpower training program was turned over to state and local authorities.

Although there have been significant refinements and enlargements of the work measurements in response to these changes, a good deal more can and should now be done. There is a clear need for further particularization -- in terms of groups of individuals and areas in the economy -- of data which have traditionally been assembled on an undifferentiated mass basis. It is becoming increasingly important to iden-

tify more fully and precisely the economic implications of employment and unemployment in the circumstances of the particular individuals involved. There has been only partial recognition of the measurement implications of adding a manpower training program to the Government responsibilities, expanding the public employment program, and turning both of these over to state and local agencies. The interrelationship between the education and work processes is now more fully realized, but the information necessary to match training with employment prospects has not been fully developed.

New questions are being raised, furthermore, about the whole work future. A potentially critical choice between settling for a no-growth prospect in this country, or making instead new and fuller uses of the human resource -- perhaps more in harmony with our underlying ideals -- may be vitally affected by the way we measure the development and use of this limitless resource.

This all requires a closer look at the present work measurements.

One other prefatory note. The following commentary, pointedly critical in some respects, is the product of previous personal participation in the affairs and responsibilities of the Bureau of Labor Statistics and the Department of Labor. Most of the suggestions which are made are based on initiatives already undertaken, if only tentatively or experimentally, by those in charge of these work measurements. The proposals proceed not only from unqualified respect for the way these employment-unemployment books have been kept, but also very largely from the instruction this measurement experience itself offers the future.

SUMMARY OF RECOMMENDATIONS

I. Recognizing the dual basic purposes of work measurements -- to provide an economic indicator for the purposes of counter-cyclical fiscal and monetary policy, and to facilitate the development and implementation of more particularized full employment measures -- it is recommended in Section I (pages 9 to 21):

A. That larger reliance be placed, in gauging the economy's use of available manpower resources, on particular items in the presently available data (notably the figures for household heads and full-time workers, and the computations of "worker weeks of unemployment" and "total labor force time lost"); and that consideration be given to the improvement of the present data base by the development of comparative worker productivity factors.

B. That the Bureau of Labor Statistics and other Government agencies undertake to assert effectively the nature of the overall employment and unemployment rates as statistical constructs and to direct further attention to the widely varying rates for particular age, sex, and ethnic groups; and that fuller measurements be developed in order to identify the special circumstances of groups which either are not singled out in the present household survey (working mothers, for example) or are too small in number (for example, physically or mentally handicapped persons) to permit isolation in this survey.

C. That a system of measurements be developed to relate employment and unemployment to their economic consequences for the individuals involved.

II. Identifying the inadequacy of state and local data as the most serious weakness in present work measurements, and the reason for this as being primarily inadequate appropriations, it is recommended in Section II (pages 22 to 27):

A. That the appropriate Congressional committees be plainly advised of the unreliability of present employment and unemployment data for areas identified for separate treatment in the Comprehensive Employment and Training Act of 1973, and of the appropriations necessary for the compilation of reliable data.

B. That, at the minimum, provision be made for expanding the present household survey sample sufficiently to permit its use to measure the work situtation accurately in the 150 largest Standard Metropolitan Statistical Areas and in all states on at least an annual basis.

III. Finding a substantial lack of data regarding the work training force, and the relationship between education and training on the one hand and manpower needs and career opportunities on the other, it is recommended in Section III (pages 27 to 41):

A. That a system be developed to provide comprehensive annual reports on the work training force, through (1) a coordination of present federal, state, and local training and education data collection and reporting systems; and (2) annual institutional and population surveys to determine the number of people enrolled in and completing educational and training programs of all kinds, including the identification so far as this is possible of (a) the occupational and career areas toward which these enrollees are directing their efforts, and (b) the geographical distribution of the training force.

B. That a system be developed permitting the maximum degree of manpower need and occupational and career outlook projections at federal, state, and local levels, through (1) the early completion by the federal government of a standard occupational classification, (2) regular occupational surveys on an industry-by-industry basis in all states, (3) job vacancy surveys (including adequate identification of the reasons for the vacancies), (4) the further refinement, through additional research, of the most reliable possible projection techniques, and (5) the consolidation of outlook projection efforts by the various agencies at federal, state, and local levels.

C. That a comprehensive system of Training and Experience Surveys be developed, to include (1) quadrennial retrospective surveys, on a sampling basis, of the training and experience of the entire work force, and (2) such follow-up surveys of the experience of particular training cohorts as is practicable making maximum use of Social Security records for this purpose.

IV. Taking account of the function of work measurements as including not only the implementing of traditional programs but the anticipation of changes in national circumstance and policy, it is recommended in Section IV (pages 41 to 48):

That a complete inventory be made of those elements and aspects of the development and use of the human resource which are not covered fully by current work measurements and which could reasonably be considered informative in the identification of alternative growth concepts based on a revision of present national priorities.

V. Realizing the necessity for much fuller consideration of the implications of such proposals as those made here, it is recommended in conclusion (page 49):

> That the President establish an independent committee to make recommendations regarding the measurement of Work in America.

I. MULTIPLE PURPOSE WORK MEASUREMENTS

Since "work" obviously can't be quantified as a whole, its measurement is necessarily a process of selecting those aspects of it that are determinable in a form that can be reported statistically and are considered important enough to go to the trouble and expense. So the appraisal of this process is only partly a matter of methodology. The more critical question is whether the selection and emphasis in the measurings consist maximally, within the limits of available methodology, with whatever are properly identified as needs to be served.

Two sets of purposes are generally recognized as underlying the measurement of work in this country: (1) to provide an "economic indicator," in terms of the use being made of the available labor supply, as a guide to taking fiscal or monetary action to either stimulate or dampen the economy; and (2) to provide what is in effect a "work profile" that will indicate the need for action directed at particular weaknesses in the employment condition -- through the strengthening, for example, of educational, manpower training, equal opportunity, area redevelopment, and public employment programs.

The consideration here of the extent to which present work measurement practices serve these dual purposes will permit taking account at the same time of their satisfaction of another important value: that the measurements be made and communicated in a form resulting in accurate public understanding of what they mean.

This will leave for separate recognition (in Section IV) the additional measurement purpose -- beyond the implementing of established full-employment programs -- to provide data regarding whatever elements in the work condition may be relevant to possible changes in national purpose and policy.

A brief summary of present work measurement practices is appropriate preface to their evaluation in terms of these various purposes and to a consideration of how they may be improved on.

The basic work statistics are obtained from two sources: a monthly survey (by the Census Bureau) of a sample of 47,000 households; and reports obtained monthly by the BLS, in cooperation with state agencies, from 155,000 employers. These provide fast and reasonably accurate monthly statistics, including considerable detail regarding occupational and industrial distributions and particular employment circumstances.

The survey of households, the Current Population Survey, counts all persons 16 years of age and older as employed, unemployed, or not in the labor force; and provides information on such personal characteristics as age, sex, color, educational level, marital status, and veteran status, and on such economic characteristics as hours worked, earnings, occupation, industry, reason for unemployment, how the worker looked for a job, and how long he or she has been unemployed.

Although the concepts and definitions of employment and unemployment in the survey are reviewed from time to time, they have been basically unchanged since the survey was started in 1940. A comprehensive review, in 1962, by the President's Committee to Appraise Employment and Unemployment Statistics (the "Gordon Committee;" Measuring Employment and Unemployment) reaffirmed the basic concepts and recommended mainly only some improvements in the definitions and questions asked in the monthly population survey (as well as the collection of information on those not in the labor force, on job vacancies, and on occupational employment).

The definitions of each person's status used in the survey reflect the difficulty of identifying unemployed workers. Although the general public notion is that anyone who is not working and who wants work is "unemployed," experience shows that asking people whether they want work produces unreliable and subjective results. Many people who say they "want" work mean only that they "would like" to have a job. Those in this situation would include some who would not or could not take a job if one were offered them because they have home responsibilities, are sick or disabled, or are otherwise fully engaged. So the survey attempts to identify those people actually doing something to find a job -- substituting an objective measure based on overt activity for a subjective measure based on an expressed wish or desire.

The classification as employed or unemployed is based on each person's activity in a particular week -- the week including the 12th of each month. Any person who did any work for pay or profit in that week, for even as little as one hour, is classified as "employed." Anybody who did no work at all, but was looking for work and had actually taken some action to find it, is classified as "unemployed." Those who neither worked nor looked for work are classified as "not in the labor force." There are necessary exceptions to these rules. Those who had jobs but did no work in the week because they were on vacation, sick, on strike, or kept from working because of bad weather, are counted as employed; so is anyone who did unpaid work in a family enterprise (farm or other business) for 15 hours or more. People who were not currently looking for work are nevertheless counted as unemployed if they were on temporary layoff expecting to be called back to a job, or if they had found jobs and been told to report for work within 30 days, or if they had applied for work within the previous four weeks and were waiting to hear the results of the application.

Over the years the Current Population Survey has been developed and extended to provide a good many insights into the differing incidence and meaning of unemployment for different groups -- family heads, their spouses, young workers still at home, students, older persons, single

men and women. In addition to the data collected monthly, the survey serves as a flexible vehicle for getting other information -- some annually (school enrollment, work and earnings experience in the previous year, persons holding more than one job), and some only occasionally (job tenure, mobility, the training each person has received, unpaid volunteer work, and so forth).

The monthly survey of 155,000 employers permits estimates of employment, hours, and earnings for over 400 specific industries nationally, and for each state and 223 metropolitan areas. A related program collects labor turnover information from employers in manufacturing and several other industries.

Together, the household and employer surveys provide independent measures of employment that can be used to check and corroborate each other; the one gives detailed information on workers' personal characteristics, while the other provides detailed industrial and geographic measures of employment.

What emerges perhaps most significantly from this summary of the present system of work measurements is the extent to which the data already being collected and reported go beyond the one widely publicized monthly figure for national unemployment. A consideration of the need for additional measurements proceeds necessarily from full recognition of the possibilities of improved use and communication of the data that are already available. There remain, nevertheless, obvious needs for repair and improvement in these critical instruments.

A. Economic indicators

Although present circumstances commend against changing the computation of the overall monthly employment and unemployment rates -- shifting thermometers, that is, at the height of a fever -- it is important to recognize the imprecision of these rates as measures of the use of the available labor resources and to identify certain perhaps preferable uses of the available data as economic indicators.

Of those reported as "unemployed," a significant number (about one-fourth in 1973; one-fifth in 1974) are available for and are seeking only part-time work. On the other hand, the count of the "employed" includes those who are available and looking for full-time work but who find only part-time jobs. The number of those in the first of these two categories was, using the 1974 average monthly figure, about 1.1 million; the number in the second category approximately 3 million.

While the need for an objective measurement warrants limiting the monthly count of the "unemployed" to those "actively looking for work," the result of this is to exclude a large number (from 500,000 to 800,000 at various times in the past seven years and currently at 1.2 million) who say they want to work but who don't actually seek jobs because they think they couldn't find them. Relying on the "unemployment rate" as

an economic indicator in times such as the present is obviously misleading unless the integrally related -- and currently sharply declining -- "labor force participation rate" is also given full account.

There are in fact particular items among the presently reported monthly data that appear from experience and on analysis to offer more precise and sensitive reflections of the labor use condition than the overall unemployment rate does. This is especially true of the unemployment rates for the roughly 50 million "household heads" and for the 75 million "full-time worker" groups. During the worsening period between July 1974 and January 1975, both of these rates went up by more than the total unemployment rate. (Household heads 73%, full-time workers 61%, total unemployment 55%.)

It has also been suggested that the seriousness of unemployment is best reflected (for economic indicator purposes) in an index which combines the number of unemployed and the average duration of their unemployment, constructing in effect a measure of "worker-weeks of unemployment."1/ This measure would fluctuate more sharply with changing economic conditions than does the unemployment rate alone. The present computation of "total labor force time lost" presents comparable possibilities.

If a more precise measure of unused labor resources is to be developed in the future, two other elements will be properly taken into account. One of these is the factor of job vacancies, which will be discussed in another connection below. The other involves the complex but nevertheless significant point of the wide variety of productive potential (so far as the economy is concerned) among different groups of workers.

The <u>overall</u> unemployment rate would be a precise measure of the economy's use of the developed and available labor resource only if all individuals had the same productivity capacity (which they don't), or if any change in the unemployment situation were spread <u>proportionately</u> over all groups with different productive capacities (which it never is). Unemployment is usually concentrated in the less productive (that is, less skilled) groups -- especially if part-time workers are counted in with full-time workers. This doesn't mitigate the economic hardship incidence of unemployment, or lessen the importance of doing something about it. It does, however, affect the measure of the economy's underuse of the labor resource considered as a factor of production. It also affects whatever is the relationship between employment-unemployment and wage-price movements.

This comparative productivity factor is also important in employment-unemployment comparisons over periods of time. Changes in the composition of the work force over the years (as between skilled and less skilled, younger and older workers, and full-time and part-time workers) arguably have the effect that any given unemployment rate in the work force taken as a whole now reflects less underutilization of the total labor resource (in product terms) than it did, say, 20 years ago -- so that a 5 percent rate now equates on this analysis with a 4.5 percent rate in the mid-fifties.2/ On the other hand, if the changing educational level of the

work force is also taken into account, a given unemployment rate today arguably reflects a larger underutilization of total labor resources than it used to.3/

Any adjustment of the reported unemployment figures to take more precise account of the distribution of such unemployment among groups with different productive potentials will present difficult computation problems. One approach would be to weight the figures by the earnings individuals could be expected to have received if they had been working, since, in general, wage rates are reasonable proxies for productivity. If data on customary weekly earnings, now being collected regularly only once a year (in May), were reported more frequently it would be possible to develop estimates of this kind, including the productive work lost not only by unemployment but also by involuntary part-time employment. This measure would be useful in estimating the "GNP gap" resulting from unemployment and would improve estimates of a "full-employment budget," one element of which is the increment in taxes the government would receive if full employment were maintained.

These are complex matters. So, however, is any responsible and reliable fixing of economic indicators the country's course is to be steered by.

Recommendation I-A: That larger reliance be placed, in gauging the economy's use of available manpower resources, on particular items in the presently available data -- notably the figures for household heads and full-time workers, and the computations of "worker weeks of unemployment" and "total labor force time lost"; and

That consideration be given to the improvement of the present data base by the development of comparative worker productivity factors.

B. A fuller work profile

Although the details of employment and unemployment -- their distribution among different groups of people, their concentration in particular areas, their effect in terms of the circumstances of the people involved -- are immaterial in the administration of countercyclical economic policy, these breakdowns are critically significant in developing direct benefit employment and training programs and evaluating their effectiveness. These details are also important in focusing public attention on this whole area.

Leaving the matters of localized data and work-training information to separate treatment in the following sections, attention is turned here to the differentiations between various population groups and to the differences in the economic consequences of various employment and unemployment situations.

1 Behind the averages

It is bound to happen some day that a BLS official, knowing the care that goes into preparing the real employment and unemployment picture in all its complexity, and tiring, finally, of seeing it all publicized in terms of one figure that is actually only a statistical construct, is going to rebel at being asked for the unemployment rate and will reply with appropriate exasperation:

"When you ask for the unemployment rate, do you mean the rate for people who depend primarily on their earnings to support themselves and their families? That would be, in general, the group including men and women 20 years old and over. There were 6,400,000 of them unemployed last month,* and their percentage rate was 7.7 percent. Or are you asking about 16-to-19 year olds, most of whom were in school? There were 1,778,000 of them who looked for work (half of it only part-time) last month and couldn't find it. Their unemployment rate is 20.4 percent. It obviously doesn't make sense to count these two groups in together.

"Are you asking about adult men or about adult women? The men's unemployment rate is 7.0 percent; among women it is 8.7 percent.

"Do you mean the rate for adult white men and women? It is 7.0 percent. Or are you asking about adults who are what we still call -- because we always have -- 'Negroes and other races?' The unemployment rate among them is nearly twice as large, 12.0 percent. So it would be a mistake to average these two figures in together.

"If this seems too much detail, let me add that answering your question in the form in which you put it would mean averaging rates ranging from 6.4 percent for adult white males to 40.2 percent for young non-white females."

* * *

The most serious consequence of the overemphasis in the media on what is at best an averaging of averages is the resultant lack of attention to the story these monthly reports actually tell, in their fuller text, about the minority group and youth unemployment situation.

That story has begun now, belatedly, to get through -- though still without its full force -- with respect to the minority groups. The increasing disparity between the figures for "whites" and those for "Negroes and other races" has become more fully recognized as the economy has tightened. Recently added tabulations of the employment status of persons of Spanish origin meet a too long unrecognized need. The special employment difficulties of American Indians obviously demand attention.

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*The figures used in this fanciful scenario are those for April, 1975.

Their numbers are so comparatively small that the size of the monthly population survey sample precludes precision, but even the rough measures that could be developed by averaging the data for 12 months would give some indication of Indians' work status in comparison to that of other groups, and would direct attention to this situation.

There is still no sufficient public awareness of the dimensions or real significance of the youth unemployment situation. This is partly because some important characteristics of this situation tend to be concealed by applying the usual unemployment measurement definitions to it. For example, a high percentage of "unemployed" youths (especially in the 16-to-17 year old group) are students, seeking only part-time or summer jobs. Much of their unemployment is associated with their frequent periods of job seeking as they enter and re-enter the labor force. Their unemployment has a different quality and significance from that of adults. Employers tend to open different kinds of jobs (characteristically temporary jobs without advancement opportunity) to young people whose major commitment is still to school.

Yet a substantial majority of 18 and 19 year old youths who are in the labor force (outside the summer months) have left school and are interested in full-time work and in jobs that give them opportunities for training and promotion. Their unemployment has a significance much closer to that of adults, although their unemployment rate is higher because of their inexperience and lack of skills. The jobs they get are often low-paid and with limited opportunities for advancement -- jobs quite tolerable for students but not for full-time workers.

For youth, then, it is important to distinguish between those in school and those not in school, and to examine a number of aspects of their work status in the light of this distinction. Such a tabulation is regularly published for the group aged 16-21 years as a whole, by sex, color and full- or part-time work interest. The same breakdown should be available for all the major labor force data on youth, especially participation rates, unemployment by reason, duration, job search methods, and employment by occupation groups and hours of work. In connection with this, the reporting of school attendance in the regular monthly statistics should be made comparable in accuracy with the annual October special survey of school enrollment.

There ought to be an age breakdown within the 16-21 grouping. The really significant differences shown by the current figures are between 16-17 year olds and those 18-19. In major work status characteristics, including school attendance, full- or part-time work interest, unemployment rates, and kinds of jobs obtained, the 18-19 year olds are much more like 20-21 year olds than they are like 16-17 year olds.

So far as the reporting of women's employment and unemployment status is concerned, the present measurements take little account of the special characteristics of what is more and more commonly a two-career situation -- homemaking and working outside the home -- with the two frequently coincident. It would add significantly to public understanding if, from time to time, the total number of hours of contributive activity, both

paid and unpaid, were measured -- for men as well as for women.* Distinction should also be made in the data to permit fuller identification of the special circumstances involved when mothers of young children choose -- or are forced by economic need -- to seek paid employment.

Special problems arise, but are little faced, with respect to the measurement of the work condition of people who are "physically and mentally disabled." A 1966 survey confirms the fact that a large percentage of men and women with impairments affecting their ability to work do, in fact, work.4/ It is clear, at the same time, that a substantial number of people disabled in particular respects but nevertheless fully competent to perform many kinds of work -- and many others whose disabilities in no way impair their working ability -- are discouraged from seeking work because of their fears, real or fancied, that employers don't want them. There were some 650,000 people in the country in 1974 (among the non-institutional population) who wanted work but didn't look for it because of their physical condition. Routinely published data fail to indicate how many among this number are in fact able to work.

This is a hard measurements problem. The monthly population surveys won't meet it; the number of people involved is not large enough that the survey sample will be adequate. There should at least be a regular repeating of the intensive survey made in 1966 by the Social Security Administration. This is precisely the kind of situation in which the recurrent reporting of some hard facts would stimulate public reaction to a work discrimination practice the present measurement system barely notices.

Recommendation I-B: That the Bureau of Labor Statistics and other Government agencies undertake to assert effectively the nature of the overall employment and unemployment rates as statistical constructs and to direct fuller attention to the widely varying rates for particular age, sex, and ethnic groups; and

That fuller measurements be developed in order to identify the special circumstances of groups which either are not singled out in the present household survey (working mothers, for example) or are too small in number (for example, physically and mentally handicapped persons) to permit isolation in this survey.

2. *Economic hardship*

The widely reported monthly employment/unemployment figures are coming under increasing criticism because of the broadening realization that they don't mean, with respect to a number of common situations, what people generally think they do.

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*See page 43.

Item: A high school student who drops by the grocery store one afternoon during the measurement week in January to try to line up Saturday work so he can buy gas for the car he got for Christmas, and is told that no help is needed, will appear in the figures released on the first Friday in February as "unemployed."

Item: The father or mother of three children, constantly looking for work but managing to find only one day of it during the entire month will (if that day falls in the measurement week) be included in the count of the "employed."

Item: A young man who came back from Vietnam badly disfigured but in no way incapacitated, who then tried futilely for several months to find work but has now given up, won't show up in the employed-unemployed count at all.

The BLS tables and charts backing up the overall rates have separate categories for these cases. They put the high school boy in the count of those "looking only for part-time work," and the desperate parent among those "working part-time but looking for full-time work;" the war veteran is reported as being "outside the work force." But those overall "employment" and "unemployment" rates don't go into these refinements. While people think of "employment" and "unemployment" in terms of their usual consequences -- economic well-being or hardship, individuals' needs -- these aren't factors in the present definitions of these terms for statistical purposes. The result is that a considerable number of people whose circumstances don't fit the economic hardship element in the popular image are counted as unemployed and a good many who are getting very little work appear as employed.

The economic hardship factor obviously depends on how long unemployment lasts and on how often it recurs. Yet the overall unemployment count makes no distinctions in these respects. Half of the reported unemployed, in normal times, have been looking for work four weeks or less; half the unemployed in one month are employed (or have left the work force) a month later. On the other hand, the regularly reported monthly figures say nothing at all of the recurrence of a particular individual's unemployment experiences. Only when the entire year's work experience is summarized in the annual special survey conducted each March is it disclosed how many weeks during the year people worked, how many weeks they were unemployed, and how many separate spells of unemployment they experienced.

Although the usual picture of an unemployed person is of the family breadwinner looking for full-time work, only about a third of those reported as unemployed at any time are (under normal circumstances) heads of households, and only three-quarters are looking for full-time work.

That popular image is also of someone who had a job but has lost it involuntarily, being laid off or fired. In normal times this is actually the situation with respect to only about 40 percent of those listed as unemployed, although this has gone up sharply as the general unemployment rate has risen. The others have either quit their last job voluntarily or are just entering (or re-entering) the work force. It is questionable,

though, how this relates to "economic hardship." Most of those entering or re-entering the work force are young people just out of school, or married women completing the more demanding stages of motherhood's responsibilities. In some countries, "unemployment" is defined for measurement purposes as including only those with a "substantial attachment to the work force." But this obviously requires careful evaluation.

Nothing here is meant to suggest that unemployment is serious only in the case of long periods of involuntary idleness experienced by heads of families who have lost full-time jobs, or that the unemployment rate as presently computed is misleadingly high. The point is only that the present measurement of "unemployment" is not an accurate or reliable indication of economic hardship.

The rest of the point is that neither is "employment," as it is presently measured, an accurate or reliable indicator of economic well being.

Many individuals who are counted as employed earn less than enough over the course of a year to support their families by any reasonable standard, because of low wages or their inability to get more than part-time or irregular work. In a year when the unemployment rate was 5.6 percent (1972), about 10 percent of all primary family earners earned less than the "poverty-level" of income for their families.

Many others who are counted as not in the labor force because they are not currently looking for work actually want a job very much but have given up the search for work because they believe it is useless. Commonly referred to as "discouraged workers," or the "hidden unemployed," this group has numbered at all times during the past 7 years between 500,000 and 800,000 people -- and this number is today 1,200,000.

There have been numerous attempts to measure not only unemployment in the traditional sense but also "sub-employment" or "economic hardship associated with inadequacy of employment opportunity."

The Department of Labor made special surveys in November 1966, of 10 inner-city neighborhoods in 8 large cities. These disclosed unemployment rates (in the conventional sense of the term) of between 6 and 12 percent in these areas, at a time when the national rate was about 4 percent. A "sub-employment" rate was then calculated for these areas by adding together the unemployed as conventionally measured, the number of people working part-time but looking for full-time work, individuals employed but with earnings at less than a defined income level (based on "poverty" standards), and a roughly estimated number taken as a reasonable approximation of those (males only) who are not included in the labor force count but who probably should be and could be productively employed. This survey showed sub-employment rates in these center-city areas ranging from 26% to 47%. Subsequent research on nonparticipation in the labor force and on the economic characteristics of persons missed in population censuses (the elements for which estimates had been included in the 1966 calculation) indicated, however, that these first sub-employment figures were probably overstated. 5/

The President's Manpower Report issued in April 1968, noted the Labor Department's calculation of a measurement based on the number of people who were unemployed for 15 weeks or more during the year plus those who worked full-time the year-round but earned less than $3,000. No factors were included for "discouraged" or "missing" workers, nor for those who worked less than full-time or the full year and had low earnings. This calculation, applied to the 1966 unemployment figures (which had averaged 3.8 percent), produced a "sub-employment" rate of 10 percent for the country as a whole; carried back to 1961 (when unemployment was 6.7 percent), it showed a rate for that year of 17 percent. The Department has continued to make this calculation and has reported it in testimony before Congressional committees but does not publish it as a regular series.

The fullest consideration of this kind of measurement, by Levitan and Taggart, has led to the proposal of an "Employment and Earnings Inadequacy" index.6/ The EEI calculation includes unemployed persons (by the traditional measure); people wanting a job but not actively seeking work because they think they couldn't find it; people working part-time but wanting full-time work; and employed family heads and individuals (unrelated) whose earnings for the previous year have been below the poverty level. There are then excluded, in an admittedly rough attempt to recognize the non-hardship factor, all persons 65 years old or over, any under 22 whose major activity is reported as going to school, and all individuals with incomes above the mean for the kinds of areas in which they live. (The last exclusion eliminates about 23 percent of those who would otherwise have been included.)

This EEI index, as computed for March 1972, produced a figure of 9.9 million people -- or 11.5 percent of the civilian labor force -- with inadequate employment and earnings. This was nearly twice as high as regular reported unemployment at that time (5.1 million people, or 5.9 percent of the labor force).

One highly significant fact about the EEI index is that it fluctuates much less from time to time than does the traditionally computed unemployment rate. Applying this calculation to figures for the period 1968-72, when the annual average unemployment rate went from 3.5 percent up to 5.9 percent (an increase of 70 percent), the movement in the EEI index would have been from 9.8 to 11.6 percent (up about 18 percent). This means that the EEI measure reflects basic structural deficiencies in the employment situation rather than just cyclical ups and downs.

The most recent suggestion7/ is of an "Index of Low Earnings" -- to include those individuals who are primary wage earners with substantial attachment to the work force, and whose annual earnings are insufficient to bring their families up above the poverty line; but with an exclusion of those whose families have significant other income from the earnings of secondary workers or from other sources. It is suggested in this proposal that "attachment to the labor force" be defined either in terms of being in the labor force a certain number of weeks in the year (e.g., 27 or more; or 40 or more) or as including all primary wage earners

except those 65 or older and those who worked less than a full year because of school attendance, illness, disability, or retirement. Depending on which labor force attachment definition is used, such a measurement would cover (using 1972 experience as an illustration) between 4.8 and 5.8 million individuals, or between 9 and 11 percent of all primary wage earners.

Recognizing that some form of "economic hardship" measure must be developed, the Congress directed in the Comprehensive Employment and Training Act of 1973 that there be established "an annual statistical measure of labor market related economic hardship in the nation." Section 312 (c) in the Act prescribes that this measure is to include such factors as "unemployment, labor force participation, involuntary part-time employment, and full-time employment at less than poverty wages." This mandate is clear, and there has been enough experimentation now with various approaches to this computation to provide the necessary basis for making the administrative decisions which are required.

It is imperative that the economic hardship measure be developed on a basis which takes account of the differences in the circumstances of different groups of people. The efforts so far seem to be designed to provide a uniform measure which will produce another single overall national rate. But while it is important to provide this corrective factor so far as the traditional employment/unemployment figures are concerned, it is even more imperative that the circumstances of the various different groupings of workers be clearly illuminated. This will require some careful refinements and distinctions in this new measurement.

It will be a mistake, for example, to carry too far the assumption made in some of these preliminary analyses that those seeking only part-time work don't present hardship cases. This clearly isn't true of mothers of children whose father is not present, so that the mothers must try to get whatever work they can fit in to school and meal and diaper schedules. It isn't true, either, of high school or college students whose staying in school depends on their getting part-time jobs. No new measurement will serve its purpose if it still further submerges these situations.

Here again, furthermore, there is the clear importance of whatever measurement is proposed being of such nature that it can be made not only of the national condition but of the situation in the particular areas in which the remedial action which the measurement calls for is going to be taken. This will mean looking for labor market related economic hardship measures which can be applied to local situations as well as to the national condition. None of the measures so far suggested permits this; they all rely on information regarding annual earnings and income and work experience which is available only from the nation wide household survey. The decennial population census offers at least the suggestion of possibilities on this score.[8/]

The economic hardship measurement will have to be such that it can be applied to all persons who rely on work for their support. It cannot

legitimately be limited in its applicability just to family heads or primary earners working full-time, but will have to be so devised as to cover secondary workers and part-time workers in those situations in which earned income has critical importance.

Recommendation I-C: That a system of measurements be developed to relate employment and unemployment to their economic consequences for the individuals involved.

II. LOCALIZED MEASUREMENTS

While national measurements of employment and unemployment are essential instruments for administering general economic policy, they do not in themselves meet the needs of those programs which have been directed increasingly over the past fifteen years at concentrations of unemployment in particular areas -- regions (Appalachia, for example), states, certain metropolitan and rural areas, and even smaller segments (such as the inner cities). These programs take a variety of forms, including the granting of priorities for government contracts, the channeling of economic development assistance, and the setting up of public employment programs.

Especially with the decentralization of federal programs under the Comprehensive Employment and Training Act of 1973 (CETA), employment and unemployment data for particular areas become critically important. That legislation provides that some programs (for public employment, for example, under Section 204(c) of CETA) are to be initiated only when the unemployment rate in the area goes above a specified level; in other cases (such as the instituting of comprehensive manpower services under Section 103(A) of CETA), federal funds are allocated on the basis of unemployment in the state as a percentage of the total national unemployment. Objective statistics are also essential here to avoid the influence of political pressures; state and local government authorities feel conflicting forces -- to rely on figures which will increase the share of federal funds, but at the same time to show the local economy in a favorable light.

The present condition of local employment and unemployment measurements -- which are developed through different processes -- may be briefly summarized:

Employment: For all states and 223 metropolitan areas ("standard metropolitan statistical areas" or "SMSA's") monthly employment statistics by industry are reported by state agencies in a cooperative program with the Bureau of Labor Statistics, using the methods and definitions relied on in developing the national employment statistics. These employment figures are reported in the month following the gathering of the data. For counties and smaller cities, annual data on employment are available from employer tax reports made in connection with social security and unemployment insurance programs; but these statistical summaries are not compiled until months after the period to which they refer. The most highly detailed geographic data on employment are those compiled in the decennial censuses of population, generally published two to three years after the census is taken.

Unemployment: Current monthly estimates of unemployment and the unemployment rate have been issued by state employment security agencies for all states and for 150 major labor areas. In addition, official lists of several hundred smaller areas with "substantial" or "persistent" unemployment have been issued. Areas with less than 1500 population may be certified as areas of "substantial" or "persistent" unemployment upon authorization by the Department of Labor. The hundreds of small areas so designated (for example, there were 736 such areas in June 1973)[9/] are selected from among thousands of small cities, towns, counties, parts of cities or parts of counties in the United States.

In view of the critical reliance on local unemployment conditions in allocating funds and initiating programs, it is ironic that these statistics are the weakest among all employment and unemployment data.

The central difficulty is that there are no adequate available direct measurements of the number of people in particular areas currently looking for work. This information is provided for all areas once every ten years, from the population census. The monthly national household survey is also based on a large enough sample that if its data are averaged over a 12-month period they permit reasonable reliable estimates for the 19 largest states (including three-quarters of all unemployed workers in the country) and the 30 largest metropolitan areas. So direct measurements of unemployment are available only once a year for these 19 states and 30 metropolitan areas, and once every ten years for all others -- which is obviously insufficient for administering these various legislative programs.

This has led to reliance on local unemployment estimates constructed from the reports -- which are available on a weekly basis for states, counties, metropolitan areas and smaller subdivisions as desired -- of the number of individuals receiving benefits under state unemployment insurance laws (the "insured unemployed"). To this number for the particular areas involved, there are then added estimates of the numbers of unemployed not receiving benefits -- such as new job seekers, unemployed workers who have not filed claims or have not yet qualified or who have exhausted their benefits, and unemployed workers from firms or industries not covered by unemployment insurance. (Some of those estimates are derived by applying ratios from nationwide averages.) The estimate of total unemployment developed in this way is then converted into an unemployment rate by taking it as a percent of the total work force, estimated by adding to the number of employees in non-agricultural establishments -- the figure produced by the cooperative program of employment statistics -- an estimate of self-employed, agricultural workers, and unpaid family workers, and the estimate of total unemployment.

This procedure is defective in a number of respects. Since the insured unemployed amount to less than half of total unemployment, more than half must be estimated indirectly or from national ratios. Moreover, the relationship between the insured unemployed and the total varies from time to time, as well as from place to place; in recent years the number of insured unemployed has been as low as one-third and as high as one-half of the estimate of the unemployed, nationally.

State laws regarding eligibility for unemployment insurance, and the ways in which they are administered, differ widely with respect to the ease with which workers can qualify for benefits; but no allowance for these differences is made in estimating local unemployment. Moreover, in the payroll employment statistics, employees are counted by the location of the employer, while the insured unemployed are estimated on the basis of where they live or where they apply for unemployment insurance; this results in a distortion of the unemployment rates whenever place of residence differs from place of work, since the numerator is on a different basis than is the denominator. Areas into which there is substantial commuting tend to be shown with lower unemployment rates than is actually the case.

As a result of these factors, the constructed estimates have been subject to considerable error. In 1970, the estimates for 13 states differed from the population census count of unemployed in those states by 20 percent or more; among these were such large states as Massachusetts, Missouri and New Jersey. Even larger errors appeared in estimates for local areas. 10/

A Department of Labor review of these methods resulted in the introduction in 1974 of several improvements. The principal change is that for the 19 largest states and 30 largest metropolitan areas the monthly household survey data (brought together on a 12-month basis) are used to establish an unemployment estimate for each area. The difference between this estimate and the estimate constructed for the latest year (from insured unemployed figures) is used to adjust the constructed estimate currently. This adjustment also corrects for the difference between place of work and place of residence. In the other 120 areas and 31 states, adjustment factors have to be derived from the differences between the constructed estimates and the figures shown by the latest census of population. Finally, the methods used by the states and the estimates made are now reviewed by the technical staff of the Bureau of Labor Statistics.

These improvements still leave what is at best a patchwork method for making the current state and local estimates of unemployment that are needed to administer the various laws. All that can be said of them is that they make the best of a bad situation. The average errors of the various state and local estimates (testing them against population census data) are reduced by the revised method. But this has meant reduction, too, in what would have been determined as the unemployment rates under the old method, and several states are now formally challenging the new method.

In recent years, a need has developed for unemployment data on areas within the Standard Metropolitan Statistical Areas -- inner city areas, for example. The traditional approach to defining local areas for labor market analysis has been to try to include a county or group of counties representing a single commuting area, so that job openings in the area are available to workers living in any part of the area. Commuting patterns are complex, however, and, depending on the public transportation available, workers without cars often have difficulty

commuting to jobs in some parts of large areas. This has been a particular problem for residents of inner-city areas as plants and businesses have moved to the suburbs. Moreover, many minority-group workers are in what is in effect a "secondary labor market" in that they are offered only the less desirable, low-paid, or irregular jobs. Thus, a generally low average unemployment rate for the entire SMSA often coexists with high rates and severe employment problems for such workers, and they are cut off from public financial assistance because of the relatively better economic circumstances of those in the "primary labor market" from which they are excluded.

This anomaly has given rise to a need for unemployment rate estimates for areas within SMSA's -- to meet, for example, the terms of the provision in the Comprehensive Employment and Training Act of 1973, for a wide range of manpower services in "any area of sufficient size and scope to sustain a public service employment program and which has a rate of unemployment equal to or in excess of 6.5 percentum for three consecutive months."

Estimates of unemployment rates for sub-areas within a Standard Metropolitan Statistical Area are, of course, even more difficult to make than those for the SMSA as a whole. Neither employment nor unemployment data are available for such areas, other than in the decennial population censuses or in the few cases in which a special local survey has been made.

The best that can be done at present is to apportion the current estimate of total unemployment in the SMSA among sub-areas on the basis of the distribution of total unemployment in the SMSA among those areas shown in the census of population of 1970. As 1970 recedes into the past, the accuracy of this method diminishes. Using the current distribution of the insured unemployed to prorate the total among sub-areas has been found to give even poorer results, possibly because fewer of the people living in the most depressed neighborhoods have had an opportunity to work in covered employment long enough to acquire eligibility for benefits.

In general, therefore, the estimates of both employment and unemployment currently being relied on to initiate these various programs on a state and smaller area basis and to distribute multi-billion dollar federal appropriations are simply not reliable. The problem has increased sharply with the enlargement of public employment and other emergency programs as the economy has worsened and unemployment has moved to record highs.

The first requirement here is that the weaknesses in these statistics be made clear to the Congress. They haven't been, at least in any effective sense. The pressures that develop when programs of the kind involved here are up for consideration don't encourage department or agency heads telling Congressional committees that there simply aren't the data available to administer the programs responsibly. The direct question of what margin of error will have to be allowed in using presently available data to meet the proposed legislative standard isn't

asked. This information would be volunteered only at the peril of appearing to oppose the legislative proposal. But this quiet conspiracy of silence on so critical a point has become intolerably irresponsible -- and expensive.

The measurements problem here is entirely one of cost. All the information necessary for making any of these determinations can be obtained by presently available techniques. The expense is unquestionably high by the standards traditionally applied to appropriations for statistical and research budgets. But the amounts involved are pennies compared with the dollars that get misdirected -- and are therefore lost or wasted -- for lack of the required information.

The first step here is to enlarge the monthly household survey sample sufficiently to meet responsibility's minimum demands. A fairly careful estimate indicates that a cost of $9 million annually (about double the present cost) would be involved in enlarging the sample enough to provide reliable estimates for the 150 largest metropolitan areas (instead of only 30 of them). A slightly higher figure would permit responsible estimates for all 50 states (instead of only 19). But better current estimates of the population in local areas will also be needed in order to provide the population control totals for the unemployment estimates; accounting for migration between censuses is a difficult problem, which the Census Bureau is trying to tackle by using information from income tax reports and other records.

Beyond their contributing to improving the estimates of total unemployment and the unemployment rate, these enlarged household surveys would permit -- at some additional cost -- getting information on the characteristics of employed and unemployed workers, thus helping local government and community agencies pinpoint the problems.

This will still leave the necessity of constructing estimates in one way or another for the smaller metropolitan areas, for rural areas, and for segments within these areas. It will provide, however, a much firmer and broader base for these constructs. Attention can then be given to the possibility of occasional samplings in particular areas when there is reason to feel that the decennial census information has become outdated.

The appropriate recommendations here, accordingly, are that full attention be given a weakness it has become customary to camouflage, and that one clear next step be taken.

Recommendation II(A): That the appropriate Congressional committees be plainly advised of the unreliability of present employment and unemployment data for areas identified for separate treatment in the Comprehensive Employment and Training Act of 1973, and of the appropriations necessary for the compilation of reliable data.

Recommendation II(B): That, at the minimum, provision be made for expanding the present household survey sample sufficiently to permit its use to measure the work situation accurately in the 150 largest

Standard Metropolitan Statistical Areas and in all states on at least an annual basis.

III. WORK TRAINING

One of the distinguishing characteristics of American history is the early emphasis in this country on the relationship between education and work. When the Congress decided (in the Morrill Act of 1862) to subsidize colleges through land grants, it directed that such colleges be for training young people for "agricultural and mechanic arts." The Vocational Education Act of 1917, the Apprenticeship Training Act of 1937, and various other Congressional enactments reflect the early and continuing national regard for the importance to work of education and training.

Only very recently, however, has work training been included in any significant way in the system of work measurements. Educational data, collected and reported by various offices of the Department of Health, Education and Welfare include statistics on vocational education. Reports are also kept in one agency or another on the educational attainment level of the work force, on the extent of apprenticeship programs, and on various miscellaneous items with work training significance. With the passage of the Manpower Development and Training Act in 1962, a further source of operating statistics was developed to provide additional data on work training.

Yet the short of it is that there is simply no comprehensive or integrated system of work training measurements in the United States. Millions of young Americans are now selecting education and work training courses, and in effect shaping their life patterns, on the basis of badly informed assumptions and often misleading information about the work prospects ahead of them. Billions of dollars are being spent on educational and training systems and structures reflecting these same rootless assumptions. While a considerable amount of relevant data is available regarding pieces of this picture, they are presently in such form as to almost defy putting them together.

Three clear needs emerge: to get and maintain a reliable picture of how many people are engaged (especially in the advanced stages) in various preparatory courses directed at particular occupations or careers; to establish procedures for the fullest possible identification and communication of prospective work opportunities; and to provide for the comparative evaluation of the cost and effectiveness of various combinations of educational and training courses for different careers and occupations.

A. The training force

An attempt to piece together the fragments of data regarding the composition of the American training force -- in terms of the number of people completing the various types of courses each year -- produces this picture:

FORMAL TRAINING FOR WORK IN THE UNITED STATES

Type of Training Course	Number of Completions Annually
Secondary	
Vocational education at the secondary level	1,160,000
Post-secondary	
Vocational education at the post-secondary level (public)	420,000
Adult preparatory vocational education (public)	320,000
Community colleges and technical institutes	310,000
Private vocational and trade schools	?
Federal manpower institutional training programs	100,000
Four-year colleges: bachelors and first professional degrees	990,000
Graduate courses: Masters' degrees	250,000
Doctors' degrees	35,000
Military service training	460,000
Training on-the-job	
Apprenticeship	50,000
Federal manpower on-the-job training programs	50,000
Other formal on-the-job training	?
Total of figures shown	4,145,000

The figures in this table are only approximations, based on reports from six different sources covering three different calendar years (1971-73). The lack of any reliable data whatsoever on two large areas -- the "private vocational and trade schools" and private "on-the-job training" (other than federally subsidized programs) -- means that the total number of individuals completing formal work training each year can only be identified as "something over 5 million." (This is significantly not the number completing their whole training course, for many of those appearing in this count will go on [after the completions reflected in the table] to another of the training programs listed; and where individuals complete more than one of these courses in the same year there will be a duplication on this count.)

There are other deficiencies in the data. The Office of Education count of completions of postsecondary vocational education overlaps with the National Center for Educational Statistics data on graduates of occupational curricula in community colleges. (Steps have recently been taken to eliminate this.) The statistics on completions, expressed in terms of curriculum or field of degree, cannot be readily related to each other or to the occupations in which people work. These statistics, as they stand, do not indicate how many of those completing various courses will seek work, or in what occupation; many enter another training program, go into military service, or move into careers outside the work force.

Inadequate as these data are, it would be a mistake to undervalue them. They confirm the significant dimensions of the training force population -- over 20 million people enrolled in, and over 5 million completing, these training programs each year. The data also suggest what can be done if the present measurement processes are brought together and then extended to the areas so far not covered.

A reliable and adequate set of work training accounts will require a combination of surveys of institutions providing the training, and population surveys covering an adequate sample of individuals taking the training. The two approaches complement each other and provide counterchecks necessary to assure reasonable accuracy.

Statistics collected from the training institutions will provide specific information on institutional characteristics (kind, geographical location, size, faculty, control, courses given, expenditures, and so forth), will permit relating individual enrollment and completion figures to these factors, and will make it possible to calculate retention rates (or "dropout" rates) for each training program or course. These institutional surveys result, however, in some double counting of individuals who go from one program to another in the course of a year; institutions themselves may be included in more than one set of statistics.

A different kind of insight is gained from statistics collected about individuals in training through surveys of the entire population (such as the decennial census), or through the sampling Current Population Survey -- which now collects data on school enrollment every October. These surveys provide information on the personal characteristics of

individuals and their activities and also some "longitudinal" information on previous educational, work, or migration experience. The duplicate counting that sometimes results from surveys of institutions is avoided, yet at the same time the multiplicity of educational and work attachments of individuals can be measured. While the decennial census provides considerable geographical detail, the sample surveys give only national data; moreover, household surveys cannot give precise information about the type of institution in which the person is enrolled.

In general, a considerable basis has already been established for surveys of training institutions, but there has been less adequate application of the population survey analysis to this area.

A good deal of the data on educational institutions is presently collected by various offices in the Department of Health, Education, and Welfare; on apprenticeship and federal manpower training programs by the Department of Labor; and on military service programs by the Department of Defense. The remaining needs here are to put this reporting by various offices on a standard enrollments and completions basis, to include occupational breakdowns, and to accelerate the collection and reporting process.

It is imperative that the private vocational and trade schools be included in this institutional survey. They make an important contribution to training for certain occupations (such as barbers, cosmetologists, and computer technicians), and serve large numbers of veterans receiving vocational training benefits. Over 6,000 such schools were listed in the Office of Education's 1971 Directory of Postsecondary Schools with Occupational Programs, and the Census Bureau's annual October school enrollment supplement to the Current Population Survey showed that in October 1973, 911,000 persons 18-34 years old were enrolled in "special schools," which is apparently about the same set of institutions. They were surveyed for the first time on a comprehensive basis in 1973 by the National Center for Educational Statistics, but the data have not yet been published. A regular survey of this group of institutions is clearly required.

Private employer training programs will be the hardest to cover. There is a problem here of distinguishing between the training which is a normal incident of experience and supervision and the training in what are becoming increasingly formal courses. Because few employers keep records on training activity in reportable form, information about the cost of training, or expenditures on training, has to be put together from various sources within the firm, and it is hard to distinguish between training costs and operational costs. Nevertheless, the Department of Labor concluded, on the basis of a pilot survey of training in the metalworking, telephone and electric utility industries in 1970, that enrollment and completion data by occupation can be effectively collected.11/ A current undertaking by the Conference Board, based on extensive employer questionnaires, should further illuminate the possibilities in this area. It also appears that trainees are a potential source of supplementary information on the kind of training they are getting, the number of hours spent, how much of their learning comes from supervisors, fellow-workers, or outside study, and what training they had received before coming to the job (in schools and in other jobs).

A good deal more remains to be done to develop an adequate population survey system in the work training area. The Bureau of the Census presently includes in the October survey of 46,000 households a set of questions on school enrollments, but the information provided only confirms the potential value of this approach in developing adequate and reliable information about the work training force, especially those in private vocational schools and in formal on-the-job training courses. The questions used there can be sharpened to permit the necessary correlation of the answers with the institutional survey data and to provide information on an occupation-by-occupation basis. The size of the sample will have to be enlarged, however, if reliable occupational data are to be obtained.

Recommendation III-A: That a system be developed to provide comprehensive annual reports on the Work Training Force, through

1. A coordination of present federal, state, and local work training and education data collection and reporting systems; and

2. Annual institutional and population surveys to determine the number of people enrolled in and completing educational and training programs of all kinds, including the identification so far as this is possible of (a) the occupational and career areas toward which these enrollees are directing their efforts, and (b) the geographical distribution of the training force.

B. Occupational outlook data

Despite the inadequacies of available information about the composition of the training force and the direction those in it are heading, it is clear that young people are shaping their education more and more toward specific vocational objectives. Increasing numbers of them are going to technical high schools, enrolling in two-year colleges that place special emphasis on occupational training, and taking college majors that are thought of as promising the most clearly identifiable future work prospects. As economic conditions tighten and unemployment rises, the movement toward specialization in the entire educational curriculum and structure accelerates.

The consequence of this is going to be heightened frustration, disillusionment, and waste if it turns out that these sharpened expectations cannot be met -- either because they were mismatched with the actual distribution of employment needs or, infinitely worse, because the country has accepted some false, no-growth notion which implies without saying it that there isn't going to be enough for everybody to do. The indications today of continuing high unemployment, having a particular impact on younger people, gives this prospect a more than usually ominous quality.

The need for such "futures" information has by no means been disregarded. The Bureau of Labor Statistics issues a biennial Occupational Outlook Handbook describing prospective employment opportunities in over 800 occupations and some 100,000 copies of each edition are sold. The Bureau also publishes special reports on occupational manpower needs designed for use in educational planning, and provides technical assistance to state employment security agencies in making state and local assessments. All the states have made such estimates, and many publish local occupational outlook information supplementing the Occupational Outlook Handbook.

These efforts have had, however, what is at most limited impact. Many young people never see the publications; many never even see a counselor in their high schools. As for the planning of training in line with prospective employment needs, there has been a notable non-use by the Vocational Education offices in the Department of Health, Education and Welfare of the occupational outlook data assembled by the Bureau of Labor Statistics in the Department of Labor -- 10 blocks away on a map of the City of Washington, but around the world as bureaucracy's ravens fly. A 1974 survey by the General Accounting Office concluded:

> Although the Vocational Education Act requires that vocational training or retraining be realistic in the light of actual or anticipated opportunities for gainful employment, this factor generally has not been adequately considered in planning for and evaluating vocational education programs. As a result, there is little assurance that changing manpower needs are being addressed in secondary or post-secondary occupational programs supported by federal funds. Many students are enrolled in traditional courses and are not always able to obtain employment in fields for which they were trained. 12/

The GAO found that from 30 to 50 percent of the secondary school vocational program graduates who go to work after leaving school are not employed in work related to their field of training.

Taking particular note of the non-use by federal and state vocational education officials of the Department of Labor information, the GAO report attributes this to lack of communication, lack of interest in planning on the basis of manpower needs, and inadequate attention to vocational guidance, work experience, and job placement on the part of vocational educators. A National Institute of Education study of the reasons for this communication breakdown is scheduled to appear shortly now.

Experience makes it clear that any effective projection of future employment prospects in particular occupations depends on the development of occupational employment data on an industry-by-industry basis. Such data are now available only from the decennial population surveys, providing no adequate current picture of what is in many industries a rapidly changing situation.

The Department of Labor began, in 1970, a cooperative federal-state effort to collect data from employers that would, for the first time, make possible not only current statistics on occupational employment, but also analysis of the differences among plants in the same industry and identification of the occupational composition in the most advanced plants -- as at least a clue to future manpower requirements. This effort is moving slowly and needs support. At present, surveys are being made in only 29 states, with several of the major industrial states not being included.

It would speed up the obtaining of current occupational employment statistics if there were a standard occupational classification system understood and used in industry and government alike. A standard industrial classification, developed many years ago, has provided a common language for all statistics and descriptions of industries. But in the field of occupations there is Babel: the Bureau of the Census is working with one classification in publishing employment, unemployment and earnings data; within the Department of Labor, the Employment Service relies on a second classification for its operational activities, while the Bureau of Labor Statistics uses different systems for occupational wage statistics and occupational employment.

The Office of Management and Budget, which is responsible for coordinating federal statistical activities, has been nursing the development of a standard occupational classification system along for eight years now, with no end in sight. The smallness of the staff working on it confirms the tokenism of the effort. In Canada, a staff of 90 people given this assignment took 4 years to complete it. The job is obviously larger in the United States, but in no sense forbidding.

The hardest problem here again is to develop localized data permitting people to plan careers in the areas they live in and would like to stay in, and providing, too, the necessary basis for the planning of manpower training and vocational education programs.

Estimates of future manpower requirements in each occupation for each state and for many metropolitan areas have been prepared, within the limitations of presently available data, by nearly all state Employment Security agencies, with the support and technical assistance of the U.S. Department of Labor. The express purpose of these projections has been to provide the information to vocational education agencies and manpower training officials, for planning purposes. The use of the information for vocational choice and career planning has not been as thoroughly developed, although some states have published occupational guidance literature based on this research. The Department of Labor has initiated a pilot program to encourage and assist states in the development and dissemination of career guidance information.

There is an astonishing gap in the information available about the number of people being trained for particular occupations in the local communities. The 1974 General Accounting Office survey, commenting that schools simply don't know whether they are contributing to oversupply in

some occupational areas and undersupply in others referred to one case by way of illustration:

> One large city school district, in planning for, establishing, and conducting its vocational and education programs, did not consider the potential supply of manpower generated by (1) the parochial system of the city which enrolled about 30,000 high school students, (2) the community colleges located in counties adjacent to the city, (3) the public and nonpublic secondary school systems located in 8 surrounding counties (3 in another state) which with the city comprised the metropolitan area, or (4) numerous proprietary schools located in and around the city.

Information on occupational training has to be compiled by assembling reports annually on completions in each occupational field from public and private vocational schools, colleges, community colleges, technical institutes, apprenticeship programs and business firms that give formal training to their employees. Doing this is not particularly difficult, for a limited number of institutions are involved. But no one agency is presently responsible for it and the necessary lines of communication have not been developed.

One of the most valuable kinds of information in this area would be whatever can be found out about existing job vacancies. But the record here is of a strangely abortive effort that extended over a four-year period -- from 1969 to 1973 -- and was then abandoned.

Strong interest in getting information on the number and characteristics of vacant jobs had developed in the mid-sixties. There were reports that employers were having trouble filling vacant positions even though there were more than three million unemployed workers. But it wasn't known how many such vacancies there really were, why they were unfilled, whether they were in occupations for which the unemployed could qualify, what part of the country they were in, or whether they were being offered at such low wage rates or under such conditions that workers would rather remain unemployed than take them.

Answers to these questions would obviously help in making policy choices. If the number of vacant jobs, nationally or in a community, is high in relation to the number unemployed, this would suggest increasing skill retraining for the unemployed, or helping them move to other cities, or bringing jobs into areas of high unemployment, or making the public employment service more efficient and speedy, or more aggressively enforcing laws against discrimination in employment. If, on the other hand, there are very few vacancies in relation to the number of unemployed, greater emphasis might be placed on measures to stimulate demand or create jobs. The occupations in which there are persistent vacancies would also guide the kinds of training that unemployed workers should be given. The job vacancy data, along with the labor turnover statistics which can be collected with it, would also provide a measurement of the effectiveness of the public employment service.

In deciding whether to institute a job vacancy survey, consideration was given the argument advanced by organized labor that the announcement of a total job vacancy figure would be used as an offset against the national unemployment total, to lessen the impact of the unemployment report. But after weighing this factor, and after several years of testing to see whether employers could provide the job vacancy information, the Labor Department launched a monthly survey of such vacancies in 1969, using the labor turnover report to collect the data. By 1973, statistics on all vacancies and on those unfilled a month or more were being published monthly for manufacturing industries, nationally and in 42 metropolitan areas; for all non-agricultural industries in 5 areas; and for some industries in addition to manufacturing in a dozen areas. Information on the occupations in which vacancies were found and on the wage rates offered was collected quarterly in 19 areas, although it was published for only 6 of these.

Progress, however, was slow. The state Employment Security agencies, which collected the data, were disappointed that the reports from a sample of firms could not be used to place applicants in the jobs reported as vacant. No adequate funding provisions were ever made; and in 1973, the decision was made to drop the survey at the end of the year. It was reported that the Labor Department was considering other ways to collect the data.

It is still possible to get some picture of job vacancies from the listings with the public Employment Service, especially in the 100 or more cities in which up-to-date listings and descriptions of job openings are maintained in computerized "job banks." The difficulty here, however, is that only an estimated one out of three job openings will normally be listed with the public employment offices.

The reasons given for abandoning the job vacancies survey are not sufficient. It is a subject of widely expressed interest and concern in the country as to how there can be 8 million unemployed at the same time that so many Help Wanted advertisements appear in the newspapers and it is impossible for so many people to find the kind of help they want. To know what the facts are here couldn't possibly hurt the legitimate interests that are involved. That some of the reasons these vacancies exist reach pretty deep is no proper basis for ignoring them.

The possibilities of projecting future occupational and career opportunities and manpower needs have been too often dismissed as presenting insuperable methodological problems. This isn't the heart of it. The data are obtainable and the techniques available for providing, at relatively modest additional expense, an infinitely clearer -- though by no means precise -- picture of future employment prospects than we presently have. But we draw back instinctively from even this much suggestion of "planning," especially when doing it would involve closer consolidation of the efforts of presently separate institutional sovereignties.

So here again, organization of these efforts is more critical than new methodology. And there is ongoing research now in the Department of Labor in cooperation with an inter-agency group, as well as a working

relationship established between federal and state offices for the development of more localized assessments. One of the most attractive possibilities is that there will be, in addition, collaborative initiatives undertaken by schools and employers in particular local communities to develop local Opportunity Inventories which will serve the common interests of those seeking education and training, those offering it, and those whose manpower needs will thereby be better met in the future.13/

Recommendation III-B: That a system be developed permitting the maximum degree of manpower need and occupational and career outlook projection at federal, state and local levels, through

1. The early completion by the federal government of a standard occupational classification;

2. Regular occupational surveys on an industry-by-industry basis in all states;

3. Job vacancy surveys (including adequate identification of the reasons for the vacancies);

4. Further refinement, through additional research, of the most reliable possible projection techniques; and

5. Consolidation of outlook projection efforts by various agencies at the federal, state, and local levels.

C. Training and experience surveys

Until comparatively recently there was little reason for much mapping or checking of the routes through education to work. Most people stayed on about the same schooling course until circumstances prompted their leaving it and then they turned to doing what was usually pretty much whatever kind of thing their parents had done. It wasn't always an easy passage but there was little mystery about it.

Today's situation is significantly different. A complex of educational and training routes leads now through different kinds of high schools -- on to public, independent, or proprietary two or four year general or technical colleges -- to futures that are unfamiliar to most of the travelers. A good many of them are freer agents now, and the passage is much longer for a lot of them than it used to be. There are a good many more decisions to be made now along the way.

Despite these changes, very little mapping of this passage area has been done -- almost none in terms that offer young people any clear or reliable information about which of the available routes are most likely to lead them most effectively to what they want to do and what they want to be. The result is a needless annual waste -- or at least inefficient use -- of literally millions of life years.

The other side of this is that tens of billions of dollars are also being used inefficiently in providing a considerable variety of educational and training programs without any evidence or even clear idea of which of them are proving worthwhile and which aren't.

The development of these educational and training options represents one of the great gains in this country in the past quarter century or so. The largest need today is for carrying this process still a good deal further -- perhaps especially in developing new combinations of education and work, and in breaking up the traditional pattern of people's taking at what is becoming one longer and longer sitting all the formal education they are ever going to get.

But the minimal demand here is that we start finding out -- and feeding back to both those who are affording these options and those who are choosing among them -- whatever the instruction of experience may be with respect to these various courses. A Comprehensive Training Experience Survey system has become an economy and an investment this country can no longer afford not to make.

Such a system -- involving essentially a careful sampling of people's experience in following various combinations of educational and training routes to different occupations and careers -- will by no means solve the problems this school-to-work passage will continue to present. Nor should it be thought of in those terms; no system of this or any other kind will even conceivably take account of all that is important about differences among individuals and about constantly changing circumstance. But such surveys will permit <u>proceeding</u> from the lessons of experience instead of from ignorance and hunch.

Comprehensive Training Experience Surveys will depend on significantly different techniques from those traditionally relied on in measuring work. The measuring of employment and unemployment to determine the condition of the economy is a matter of taking a picture of a <u>current condition</u>. Measuring the effectiveness of education and training requires, however, the tracing of <u>experience over a period of time</u>.

Furthermore, while employment and unemployment are (at least as they have traditionally been measured) objectively identifiable <u>facts</u>, measuring the effectiveness of education and training obviously brings in some judgmental elements. A great deal of education is not intended or designed to be related to work. And the measurement of the effectiveness of work training depends on what measures of work success are taken. Is the measure to be earnings, productivity, supervisors' ratings, or simply whether or not the trainees got jobs in their fields? How is training to be associated with job success when many workers take more than one kind of training? How is the effect of training to be isolated from other factors in job success, such as personal circumstance, motivation, intelligence, or geographical differences in employment opportunity?

Two measurement techniques, however, have already been tested with sufficiently worthwhile results to commend them strongly for substantially larger use. One involves the "retrospective" surveying of the

educational and training experience of people who have reached various career points. The other, more difficult, requires following up on the subsequent experience of "cohorts" surveyed first at the training or educational stage. The two techniques are complementary, each providing perspectives the other lacks and the two together permitting essential counterchecks.

The "retrospective" training experience survey technique involves simply a questioning of people about their previous experience. It is obviously vulnerable to the frailties of recollection and the biases which infect all autobiographical reporting. It relates previous experience to the interviewees' present situation, which is obviously subject to change. Its reliability depends on the adequacy of the sample which is used and on obtaining broad enough information, personal and circumstantial, to put the training factor in whatever may be its critical context. Carefully used, nevertheless, such retrospective surveys afford information, in a form useful to others, about how people have gotten to wherever they are.

There have been countless retrospective surveys of the educational, training, and broader career experience of men and women who have "made it" in one occupation or career or another, especially in the professions and the more skilled occupations. The Bureau of Labor Statistics has made nationwide surveys of the training and work experience of tool and die makers, molders, electronic technicians, among others. There are rarely, however, subsequent surveys of the same occupational areas. Only in the engineering, medical, teaching, and legal professions is there substantial basis in repeated surveys for identifying the changes that are taking place so rapidly in the educational and training pattern.

The 1970 Census of Population included some questions about what vocational training people had received. Responses to these questions have been related to other data collected in the Census to produce a set of findings about such things as differentials in earnings and occupational status between those who complete vocational training and those who do not have such training.14/

The value of this kind of training experience measurement is clearest from the findings based on a bank of some 20 questions added to the April 1963 household survey conducted by the Bureau of the Census. These findings, reported in two monographs,15/ provide valuable insights into the relationship between training and subsequent employment. A large proportion of those employed in many non-professional fields had received no formal training in those fields. Moreover, such formal training as they had received was not always considered the most useful. A high proportion of both airplane mechanics and radio and television repairmen, for example, reported having had formal training (73 percent and 86 percent, respectively); but when asked what was the most helpful way of learning their trade, half of the radio-TV repairmen but only one-sixth of the airplane mechanics mentioned formal training; to the latter, on-the-job instruction and casual methods of learning were more significant.

No similar survey has been made since 1963. There have unquestionably been significant changes since then in much of what it shows. Its

updating at three or five year intervals, and its refinement in various respects suggested by this initial effort, would add significantly to knowledge that is critically important to those who are administering the work training programs and equally to those going through this critical passage between education and work.

Follow-up surveys, instead of relying on memory of previous training and work experience, start with people at some point in their lives and follow them up at intervals to find out what happens to them. Such follow-up surveys are better designed to measure outcomes of training since they take a group of people who have a particular type of training; they also permit getting fuller information on the characteristics of the training and of the individuals than can be obtained by retrospective surveys. For these reasons, follow-up surveys have been used increasingly, although so far on a comparatively limited basis.

The Office of Education is making a continuing study of a cohort of some 18,000 students who finished high school in 1972. There have been similar projects involving college freshmen (American Council on Education), college graduates (Bureau of Social Science Research), and national samples of men and women 14 to 24 years of age, men 45-59, and women 30-44 (Herbert Parnes and associates, at the Center for Human Resource Research, Ohio State University). The Office of Education and state vocational education agencies try to follow up graduates of vocational curricula to find out whether they get jobs, and if the jobs are related to their training. For the same purpose, the Department of Labor follows workers who have had MDTA training. This leaves out, however, such important groups as those graduating from two-year colleges, technical institutes, and private vocational schools; and includes nothing in the important area of on-the-job and other training provided in private industry.

Such follow-up surveys will obviously be reliable only as they include sufficient personal and circumstantial data to permit an evaluation of the educational and training experience as one element in the particular individual's career development. There must be adequate recognition that other factors in the individual's situation may have contributed to the "success" which attended his or her following a particular course -- or leaving it. (This brings in some right of privacy concerns which have already been recognized as requiring careful attention in the conduct of follow-up surveys.) There is the related importance of avoiding, in such surveys and analyses, unwarranted assumptions that all individuals pursue particular educational and training courses for the same reasons or with the same objectives in mind. The surveys don't measure "success" or "failure," in any broad sense, but at most only by whatever particular criteria the survey pursues. This can be tricky, even dangerous, business.

The most serious difficulty with follow-up surveys arises in connection with the mechanics of keeping in touch with sufficient numbers of the original cohorts. Losses of 25 to 65 percent of the original group are not uncommon in surveys starting with school students, since

mobility is high in the years immediately after school. In "Project TALENT,"16/ the most ambitious of these surveys so far, 69 percent responded to a mailed questionnaire after one year, 37 percent after four years. The greater the losses, the more likely the survey is to be unrepresentative, particularly since the factors explaining the difficulty in finding the "last" group may be closely related to some of the elements being measured.

To offset this loss, it has become standard procedure to follow up more vigorously a small sample of those who do not respond to mailed questionnaires. If nearly all of those in the non-respondent sample can be found, the information on them may be used to represent the whole group of non-respondents in the survey. In Project TALENT, these special surveys yielded response rates ranging from 99 percent for those one year out of school to 73 percent for those out four years.

Social Security records appear to present substantial follow-up possibilities in connection with longitudinal studies. Individual accounts kept for all workers for whom contributions are made include a record of their earnings each quarter, and the name and location of the employer. Since employers are classified by industry, it is possible to follow individual records to identify changes in jobs, industries and places of work, and the earnings associated with those changes. Workers are classified by age, sex, and race, although no data are included on education, training or particular occupation. The latter could be related to the data in Social Security records, however, by following up the records of individuals who are included in a survey sample derived from other sources. This can be done if the confidentiality of individual records is protected. This method has been used by the Labor Department in following up the subsequent experience of MDTA trainees. Use could also be made of the Continuous Work History Sample (amounting to one percent of all individual records) which the Social Security Administration maintains for research purposes.

These Social Security records obviate the problem of losses in follow-up surveys, except insofar as workers become unemployed, drop out of the labor force, or move to uncovered employment (which formerly was substantial, but with the successive extensions of Social Security coverage now amounts to less than 10 percent of all employed persons). This is a potentially powerful research tool, even though the data collected are limited.

Difficult as these mechanical problems may be, the situation here is that no really reliable insight into the comparative effectiveness and cost of various training programs, particularly in combination with each other, can be obtained except through the development of a system of longitudinal surveys.

Recommendation III-C: That a comprehensive system of Training and Experience Surveys be developed, to include

1. Quadrennial retrospective surveys, on a sampling basis, of the training and experience of the entire work force; and

2. Such follow-up surveys of the experience of particular training cohorts as is practicable, making maximum use of Social Security records for this purpose.

IV. IN BROADER PERSPECTIVE

It was noted at the outset that the measurement of work amounts in fact only to keeping track of particular aspects of it deemed important in the light of national policy -- with the converse consequence that special emphasis then tends to be put on whatever work elements are being measured. This can have a constraining effect on policy development. So the appraisal of these measurements properly includes inquiring whether they adequately inform not only the administration of traditional programs but also the necessarily vigilant consideration, in a protean society and economy, of possible changes in national purpose and policy.

Such inquiry defies handling as an abstraction. Three more specific questions about present work measurements afford, however, fairly illustrative testing: whether they are more predominantly quantitative than statistical methodology requires and contemporary emphasis warrants; whether their coverage only of work performed in the "labor market" -- for pay -- continues to be appropriate; and, more broadly, whether they are tied unduly to concepts of "full employment" and "growth" which have themselves come into doubt.

A. "Quality of work"

Even as the recent currency of the "quality of work" phrase highlights the primarily quantitative character of traditional work measurements, it also suggests the difficulties that measurers face in keeping properly abreast of evolving interest and concern. For while "quality of work" connotes to some those elements of work which at least assumedly affect workers' "satisfaction," it reflects the interest of others in the larger contribution of good work than bad to productivity. The commonest suggestion is that these are twin (though hardly identical) considerations. Yet the measurement implications are obviously different. Regardless, however, of which of these meanings is to be given either preference or priority, it is plain that present work measurements provide a good deal less illumination than they might.

So far as the worker interests are concerned, and using the familiar distinctions between the economic, physical, and social aspects

of work,[17] there is obviously considerable data available (a good deal of it on a series basis) regarding earnings, including monetary fringe benefits. This is also true of security of employment, and of working time (except perhaps with respect to the increasingly important matter of flexible scheduling of work time). There has been little data assembled, however, on opportunity for advancement, and any reliable measurement of this aspect will have to depend on further development of the "longitudinal" types of surveys discussed in Section III-C, above.

In the area of physical aspects, there is now a considerable body of data on work accidents but comparatively little, compared with what could be obtained, on occupational illness. There is a good deal of information on physical working conditions and physical demands of the job, but this has not been developed on a systematic measurement basis.

The social, or psycho-social aspects of work -- involving its variety, what it offers in terms of responsibility, use of the worker's capacities, interpersonal relations (with other workers, supervisors, customers), self-esteem -- have been "measured" so far only to the extent of numerous, but in no sense systematic, studies and surveys based largely on interviews with various groups of employees. Attempted analyses of worker satisfactions and dissatisfactions in terms of drop-out, turnover, absenteeism rates and the like have yielded little additional insight.[18] There has been no significant attention to the importance to individuals of assistance in finding placement in occupations which reflect their personal interests, capabilities, and values.

There has been, furthermore, no significant attempt to get at whatever may be the evidence regarding the reasons why people attach different values to different kind of work, and no probing into the roots of those reasons. To realize the difference between the respect the various crafts used to have and what they generally lack now -- to recognize the difference between the satisfactions Europeans find in various service occupations and the disdain Americans feel for them -- and to take account of the unfilled jobs in this country today at a time of the highest unemployment in 35 years (whatever may be the reasons for this) -- is to at least sense the critical need for more information than we now have about not only attitudes, satisfactions and discontents regarding work, but equally about the reasons for all of this.

So far as measurement of "quality of work" in terms of employer interests in productivity is concerned, a different set of considerations is involved. On the one hand, dull, uninteresting work or poor working conditions arguably contribute to low productivity, high spoilage rates, or costly accidents, turnover or absenteeism. On the other hand, redesigning or enlarging the scope of the work to make it more "satisfying" is likely to interfere with that degree of division of labor generally assumed to maximize productivity; improving working conditions in other ways may involve increased costs. The individual employer will consider whether, taking into account all costs and benefits, there is net advantage by redesigning jobs.

The measurement of "labor productivity" has been largely confined in this country to the elementary dividing of the Gross National Product figure (or the physical volume of output in the few dozen industries where this can be measured) by the number of people-hours worked to produce an overall "productivity" figure. There is some further refinement of this, but more would be clearly possible. Although productivity is unquestionably harder to measure in some kinds of work than in others, reliable measurement procedures are at hand if the determination should be made to get larger insights into production efficiency.

In general, therefore, there are obvious practicable extensions of present work measurement techniques in the areas of both "work satisfactions" and "productivity" that would significantly illuminate what are emerging increasingly as vital issues of human and national, individual as well as economic, concern.

B. Beyond the "labor market"

The reason for the traditional confinement of work measurements almost entirely to work performed for pay is obviously that only such work is counted in computing the Gross National Product we depend on, or assume we do, as the staff of national life. This carries no necessary implication of disinterest in other things; it is just that we keep our books in terms of what pays, and the measurement of work is part of this accounting.

Yet the consequences of this practice are fairly caricatured (though at the risk of seeming chauvinistic condescension) by picturing the woman who interrupts her ironing to go to the door, infant in arms, to let in the Census Bureau interviewer conducting the monthly household survey. She shoves aside the dress she was cutting out on the table and they sit down to go through the fifteen to thirty minutes questioning about what her husband and the rest of the family are doing. She doesn't herself come into the conversation until she happens to mention having called the supermarket the day before to see if they had any evening or Saturday work for her. No, they didn't. That woman shows up in the figures reported on the first Friday of the following month -- as unemployed!

Yet what of it -- except that the national accounts are kept with a particular and clearly recognized purpose in mind?

As of the mother, so perhaps too of the volunteer worker in the community. Twice -- in November 1965, and again in April 1974 -- the monthly household survey was used to gauge the amount of this kind of activity which goes on. Assuming the reliability of the sample and the interviewing process, some 15 million people spent an average nine hours in volunteer work in one week in April last year. The survey indicated that 37 million had done such work during the previous year; nearly a

third of them more than 100 hours of it -- in educational, health, or civic service (15 percent reported in each of these categories), or politics (3 percent), or something else. A later 1974 poll, privately conducted, reports an even larger degree of participation in volunteer work -- with just about a third of the entire population (18 years of age and older) reporting participation in one type or another of such activity.[19]

Yet here again there are the questions of what relevance such data have to the purposes of measuring work -- and whether these occasional surveys don't in any event meet fully whatever value is to be served.

It is harder to dismiss the implications of the way current measurement practices affect the reporting of the activities -- and non-activities -- of people past what is commonly considered working age. Those who continue to work for pay or who seek such work actively of course continue to be covered by the regular employment and unemployment counts; the "65 and over" category in the measured work force averaged, in 1974, some 3 million men and women. Yet this becomes, as the compulsory retirement practice is extended and the retirement age constantly lowered, a smaller and smaller part of the whole picture here. Although no solid data are available, the indications are that as many as three out of ten of those 65 and over who are not working would like to be;[20] and there is no telling what the comparable figure would be if various policies were changed to encourage, rather than to actively discourage, older people's staying at work. Only the most superficial inquiry has been made into the broader potential that older people offer for services going beyond those being performed in the competitive "labor market" and involving, in numberless areas, functions very much in need of being filled.

The general notion that the current work measurements offer an index of the economy's use of the available human resource obviously requires, on closer attention, significantly more careful statement. The present statistics are actually only measures of the economy's use of those human resources in which the economy, in the traditional conception of it, is interested. Any use of these resources not paid for isn't included. What's more, if it develops -- as it now has -- that the economy as it is presently operating needs fewer people and if it is decided to meet this situation by retiring more of them earlier, the work measurements operate to camouflage to a considerable extent the effect and impact of this decision.

The Gordon Committee recommended, after going into this issue, that the definition of employment <u>not</u> be extended beyond work for pay, relying principally on the fact that only such employment is taken into account in computing national income and the Gross National Product. But the question would be approached by such a committee today in a broader context -- with the probably more likely conclusion that some kind of <u>separate</u> measuring should be taken, very possibly on an annual basis, of all forms of contributive individual activity. There are obvious questions of definition and distinctions to be considered here, and specific recommendation would be inappropriate without exploring

those questions. But the requisite measurement techniques are clearly available, and the good sense of moving in this direction is more and more impelling.

C. No limits to growth

An unemployment rate at 9 percent, with no prospect in sight of a return to "full employment" even as the economists define it, tends -- as Dr. Johnson didn't quite say -- to concentrate a nation's thoughts greatly. This harder thinking is sobered further by the half-truth warnings that the depletion of certain natural resources is bringing the American economy close to ultimate "limits to growth." So there are new imperatives today for expanding the measurements of work -- to cover more than the effect on the "labor market" of business as usual, politics as it is presently practiced, and economics as it is currently being taught.

These broader measurements -- many of them within the reach of recognized methodology and already tested techniques -- will properly include not just "work" as it has been traditionally defined but the broader area of the present and potential development and use of the human resource. For this resource, unlike natural resources, is in limitless supply and is an independent element of growth -- unless we have become captives of custom's definition of what growth means.

In a relatively conventional view of the future, the economy will eventually adjust to the various present and prospective shortages in ways as likely to lead to more jobs as to fewer -- through the increased development of new forms of energy, for example, or even conceivably through less reliance on laborsaving, energy consuming machinery or gasoline shortages. Resultant high prices may lead to the development of mass transit facilities on a scale involving a larger consequent expansion of employment in these areas than the drop in employment in the automobile industry.

Present data measurements offer sparse illumination of such prospects as these. There are only prototypes today of those models which would permit the translation of presently obtainable data into reasonably precise projections of what the employment effects of various shifts in production priorities would be. Having not even put together, so far, the picture of present manpower needs on an occupation-by-occupation basis, particularly for various industries considered separately, we have no way of identifying reliably the effects of changing production patterns. There has been only the most limited research into the response of labor supply and demand to changes in prices of critical commodities or even of technological changes directly affecting employment.

To imply criticism here of the measurers is to leave out the fact that the real deterrent to such research and compilation of data is a pervasive skepticism about the political feasibility of taking action the data might commend. Suppose, as seems likely, the input-output model would suggest that a society concerned about both its raw materials and its ecology should put itself in smaller and fewer cars. Who would then have to deal with management, labor, and stockholder reactions in the automobile, steel and glass industries? And with what piloting powerful machines, even four-fifths empty and through rush hour traffic jams, apparently means to human egos? Statisticians will enter reluctantly where politicians are loathe to tread.

Yet somebody is obligated to provide the figures not just on the effect of our present conditioned priorities but on the alternative possibilities which would let us lead from our strengths instead of our weaknesses. We are entitled to know what the net "manpower" consequences and the full economic implications would be of, say as one scenario, developing adequate mass transit systems and stopping the cobwebbing of our cities with concrete, taking whatever steps are necessary to clean up the air and the water, and giving ourselves the health facilities and services we need. What would the unemployment rate be then? We have been thoroughly advised of our mistake of training 4 million elementary and secondary teachers in the 1970's for what are going to be only 2 million openings for them. But what would this picture be if we changed even just a little bit the present ratio between teachers and students? What would the Gross National Income and Product be under various alternative assumptions of the allocation of both our limited natural resources and our infinite human resources?

The economists have so far dealt only inconclusively with what would seem the plainly important evidence that increased education of the work force is a clearly significant element in increased productivity -- even by the GNP's measure of it.[21] There has been only the most timid exploration of the possibility that a large-scale increased development of the human resource might be a significant alternative raw material of growth, as natural resources decline, or even into the economics of a large-scale expansion of education as a major growth industry. We assume automatically, in this country, that if the economy worsens, such things as education will have to be cut back. While most European countries are working out countercyclical training and education programs, we go on simply paying unemployment insurance benefits as the best we can do about joblessness. This doesn't create an atmosphere conducive to innovativeness among the data collectors and interpreters.

The question lingers, though, whether those with particular professional responsibility for the development of the statistical data the country depends on -- not just the administrators of government statistical agencies but the broader statistical profession -- are asserting a maximum initiative here. Those who made this country's economic indicators models for the world seem some way to draw back from the current effort to develop a set of social indicators for the United States[22] which would at least start to approach those that are

now common in most other developed nations. There is no evident interest here in Japan's development of a Net National Welfare index which factors work in the home and volunteer community service into the national product account,23/ or in the 1972 suggestion by two respected American economists (William Nordhaus and James Tobin) of a somewhat similar Net Economic Welfare account (as part, incidentally, of their approach to the question "Is Growth Obsolete?"). 24/

Surely it is no longer fanciful that the growth the American system will depend on in the future involves a good deal more than what is presently tabulated as the Gross National Product. There is ample warrant for the statisticians' as well as the economists' consideration of whether a broader index of Net National Achievements would at least be the basis for public consideration of whether including some new parameters in our equations will perhaps suggest routes leading beyond the gloomy limits-to-growth perimeters.

It will be the possibilities of reassessing the value to be placed on various kinds of contributive human activity that will determine whether some alternative form of growth concept is feasible. It will be properly considered in this connection that the "work" we rely on today to support ourselves is only in fractional part now (little more than one-third) in "production"; the rest is "services." Furthermore, what is presently counted as work -- and measured as such -- now constitutes a significantly smaller part of the total of human activity than it used to. A combination of developments -- the prolonging of education, the shortening of the work week and the work year (on most but not all jobs), earlier customary retirement, the reduced demands of motherhood on women's time, technology's effect of reducing the drain of many kinds of work on people's physical energies, the increase in life expectancies -- has meant both a reduction in traditional work's dominion over life and, conversely, an increase in the potential for other constructive forms of activity. There is perhaps no clearer reflection of the limitations of present measurement practices than that they provide no measure at all of the dimensions of this obviously significant change in the pattern of things.

There is no basis for assuming the form or even the fact of an alternative concept of self-sustaining societal growth. Nothing suggested here about a reevaluation of the meaning of work even pretends at establishing that alternative. It only seems reasonable to assert -- against a form of hopelessness about "no-growth" -- that we need to find out a good deal more about the potential of the human resource than what is provided in measurements of the number of people bartering their services for pay in the "labor market".

* * *

Any broad recommendation here regarding the fitting of work measurements into this wider perspective would be patently premature and would in effect belittle the significance of all that is involved. Perhaps it rebukes the rhetoric that has been indulged here to suggest only one modest -- but nevertheless critical -- first step that can be taken

by those whose business these measurements are:

Recommendation IV: That a complete inventory be made of those measurable elements and aspects of the development and use of the human resource which are not covered fully by current work measurements and which could reasonably be considered informative in the identification of alternative growth concepts based on a revision of present national priorities.

CONCLUSION

The United States has one of the world's superior systems for work measurement. It produces rapidly an immense amount of information -- much of it readily adaptable to flexible use in obtaining still other information. And yet the preservation of what is good, including continuity of measures over time so that long-term trends can be analyzed and the lessons of recent history learned, constitutes no barrier to improving the system.

Twelve years have elapsed since the last general review of work measurements by the President's Committee to Appraise Employment and Unemployment Statistics. The social and economic environment have changed greatly during these years. So have the questions the data are required to answer. New knowledge and techniques, the results of new research, are now available for the development of improved measurements and for their better applications to increasingly complex problems and to the improvement of new prospects. It is time that another general review of these measurements be made, by another Committee of competent, respected and independent members. What has been considered here is suggested as part of such a Committee's agenda.

Recommendation V: That the President establish an independent committee to make recommendations regarding the measurement of Work in America.

FOOTNOTES

1. Geoffrey H. Moore, How Full is Full Employment? -- American Enterprise Institute for Public Policy Research, Washington, D.C. (1973).

2. George L. Perry, Changing Labor Markets and Inflation -- The Brookings Institution, Washington, D.C. (1970).

3. Sonia Conley, "Education and Labor Market Tightness" -- Monthly Labor Review, October 1974, pp. 51-53.

4. Kathryn H. Allen and Mildred E. Cinsky, "General Characteristics of the Disabled Population" -- Social Security Bulletin, August 1972, pp. 29-37.

5. Work Plans of Men Not in the Work Force -- Special Labor Force Report No. 97, U.S. Department of Labor, Bureau of Labor Statistics (reprinted in Monthly Labor Review, September 1968); and Deborah P. Klein, "Determining the Labor Force Status of Men Missed in the Census", Monthly Labor Review, March 1970, pp. 28-30.

6. Sar A. Levitan and Robert Taggart, III, Employment and Earnings Inadequacy: A New Social Indicator, The Johns Hopkins University Press, Baltimore, (1974).

7. Robert L. Stein, A Proposed Index of Low Earnings -- Proceedings, North American Conference on Labor Statistics, June 1974.

8. Employment Profiles of Selected Low Income Areas -- Census of the Population, 1970, Volume PHC(3).

9. Area Trends in Employment and Unemployment, U.S. Department of Labor, Manpower Administration, June 1973, p. 3.

10. J.R. Wetzel, New Procedures for Estimating Unemployment in States and Local Areas; A Progress Report -- Annual Conference of American Statistical Association, August 1974; James R. Wetzel and Martin Ziegler, "Measuring Unemployment in States and Local Areas," Monthly Labor Review, June 1974, pp. 40-46.

11. H. James Neary, "The BLS Pilot Survey of Training in Industry," Monthly Labor Review, February 1974, pp. 26-32. For an account of other pilot surveys, see Gerald G. Somers and Myron Roomkin, "Developing Data on Training in Industry," Monthly Labor Review, February 1974, pp. 33-37.

12. What Is The Role of Federal Assistance for Vocational Education? -- A Report to the Congress by the Comptroller General of the United States, December 1974, p. 68.

13. A specific proposal for the development of such local Opportunities Inventories is made in Chapter 4 of The Boundless Resource: A Prospectus for an Education-Work Policy (National Manpower Institute, 1975).

14. Census of the Population, 1970: Vocational Training, Population Vol. II, PC(2)-5C, U.S. Department of Commerce, Bureau of the Census (1974).

15. Formal Occupational Training of Adult Workers -- Research Monograph No. 2, U.S. Department of Labor, Manpower Administration, December 1964; Ann R. Miller, Current Occupation and Past Training of Adult Workers -- Statistical Evaluation Report No. 7, Executive Office of the President, Bureau of the Budget, Office of Statistical Standards, March 1968.

16. Project TALENT, conducted by the American Institutes for Research, involved the surveying, in 1960, of a national sample of 400,000 students in grades 9-12; a good deal of personal data was obtained and various psychological and educational achievement tests were made. This cohort was followed up a year later and then again after five years to obtain information about subsequent school and work experience. See John C. Flanagan, Marion F. Shaycoft, James M. Richards, Jr., and John G. Claudy, Five Years After High School, American Institutes for Research and University of Pittsburgh, 1971.

17. R.E. Walton, Criteria for Quality of Work Life, paper prepared for the International Conference on Quality of Working Life, Arden House, September 1972. See also, The Quality of Working Life, An Annotated Bibliography, 1957-72, Center for Organizational Studies, Graduate School of Management, University of California at Los Angeles, (1973).

18. Peter Henle, Economic Effects: Reviewing the Evidence, paper prepared for Forty-Third American Assembly, The Changing World of Work, Arden House, November 1973; reported in The Worker and the Job, edited by Jerome M. Rosow, Prentice Hall, Inc. (1974).

19. A Survey on Aging: Experience of Older Americans vs. Public Expectation of Old Age, Louis Harris and Associates, Inc., conducted for the National Council for the Aging, Inc., November 1974.

20. Ibid.

21. The literature in this area is summarized in Chapter 9 of The Boundless Resource: A Prospectus for an Education-Work Policy. See footnote 13, above.

22. Social Indicators, 1973, Office of Management and Budget.

23. See Japan Labor Bulletin, March 1, 1973.

24. William Nordhaus and James Tobin, "Is Growth Obsolete?" in Economic Research, Retrospect and Prospect, National Bureau of Economic Research (1972).